

Work Order ID 106302

August-28-13 12:33:34 PM

106302

Page 1

Item ID: D3066-1

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Spacer

Start Date: 8/28/13

Start Qty: 40.00

40

Required Date: 8/28/13

Req'd Qty: 40.00

40

Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan: MLJ

Date: 13-08-29

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

| Draw Nbr | Revision Nbr |
|----------|--------------|
| D3066 | Rev B |

100

100

FLOW WATER JET

0.00

120 0 Ae 13.10.24

Waterjet

Memo

0.00

FLOW CNC Waterjet

1-Cut as per Dwg D3066

Dwg Rev: B

Prog Rev: B

2-Deburr if necessary

110

QC2- Inspect parts off machine FAI/FAIB

0.00

120 0 Ae 13.10.24

QC

Memo

0.00

Quality Control

DAS

27

9-89

120

QC8- Inspect parts - second check

0.00

B1a24

120
Colm

QC

Quality Control

NCR: Yes / No

DQA: Date:

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ **Date:** _____

| Work Order: _____ | | | | DISPOSITION | | AGAINST DEPARTMENT/PROCESS | | | | | |
|------------------------------|------|------|-----|---|--|--|--|---|--------------|--|--|
| | | | | Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/> | Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> | Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> | Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> | Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> | | | |
| Part No. _____ | | | | | | | | | | | |
| NCR No. _____ | | | | | | | | | | | |
| Root Cause | Date | Step | Qty | Description of work order update or Non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector | | |
| Doc/Data | | | | | | | | | | | |
| Equip/Tooling | | | | | | | | | | | |
| Operator | | | | | | | | | | | |
| Material | | | | | | | | | | | |
| Setup | | | | | | | | | | | |
| Other | | | | | | | | | | | |
| Process | | | | | | | | | | | |
| Supplier | | | | | | | | | | | |
| Training | | | | | | | | | | | |
| Unapproved | | | | | | | | | | | |
| FAULT CATEGORY | | | | | | | | | | | |
| Landing Gear | | | | General | | | | | | | |
| Bending | | | | Bend <input type="checkbox"/> | Grain <input type="checkbox"/> | Ovalized <input type="checkbox"/> | Pressure/Forced <input type="checkbox"/> | | | | |
| Centre Not Concentric to O/S | | | | BOM/Route <input type="checkbox"/> | Hardware <input type="checkbox"/> | Over/Under tolerance <input type="checkbox"/> | Temperature/Cure <input type="checkbox"/> | | | | |
| Cracks | | | | Broken/Damaged <input type="checkbox"/> | Inspection Incomplete <input type="checkbox"/> | Part Incorrect <input type="checkbox"/> | Weld <input type="checkbox"/> | | | | |
| Crushed/Crimped | | | | Burrs <input type="checkbox"/> | Instructions Incomplete/Unclear <input type="checkbox"/> | Part Lost/Missing <input type="checkbox"/> | Wrong Stock Pulled <input type="checkbox"/> | | | | |
| Cuffs | | | | Contamination <input type="checkbox"/> | Maintenance <input type="checkbox"/> | Part Moved <input type="checkbox"/> | | | | | |
| Heat Treat | | | | Countersink <input type="checkbox"/> | Mislabeled <input type="checkbox"/> | Positioned Wrong <input type="checkbox"/> | | | | | |
| Inspection Strip in Tube | | | | Cut Too Short <input type="checkbox"/> | Misread <input type="checkbox"/> | Power Loss/Surge <input type="checkbox"/> | | | | | |
| Ripples in Bend | | | | Drill Holes <input type="checkbox"/> | Offset <input type="checkbox"/> | | | | | | |
| Torque Waves in Extrusion | | | | Drawing <input type="checkbox"/> | Out of Calibration <input type="checkbox"/> | | | | | | |
| Turning Sequence | | | | Finish <input type="checkbox"/> | Out of Sequence <input type="checkbox"/> | | | | | | |
| Wave/Twist in Tube | | | | Folio <input type="checkbox"/> | Outside Dimensions <input type="checkbox"/> | | | | | | |
| Other | | | | | | | | | | | |

Work Order ID 106302

August-28-13 12:33:34 PM

106302

Page 2

Item ID: D3066-1

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Spacer

Stop

NS2

Start Date: 8/28/13 Start Qty: 40.00

40

Cust Item ID:

Required Date: 8/28/13 Req'd Qty: 40.00

40

Customer:

Reference:

Approvals: Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130

Chemical Conversion Coat per QSI005 4.1

0.00

130

HandFinish

Hand Finishing

120 Ø CF 13-11-13

140

OC3- Inspect Part Finish

0.00

140

QC

Quality Control

Memo

0.00

120 Ø

DAS
19
9-89

PT.O.

150

Identify as per dwg & Stock Location: WA.003 0.00

150

Packaging

Packaging

Memo

0.00

*** STOCK IN STEP CELL***

120 Ø

14
13-11-19

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

| Work Order: _____ | | | DISPOSITION | | | AGAINST DEPARTMENT/PROCESS | | | | | |
|-------------------|---|---|--|---|---|---|--|---------------------------------------|---|--------------|--|
| | | | Rework <input type="checkbox"/> | Scrap <input type="checkbox"/> | Use-as-is <input type="checkbox"/> | Skid-tube <input type="checkbox"/> | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | | |
| Part No. _____ | | | Machining <input type="checkbox"/> | Thermoforming <input type="checkbox"/> | Large Fab <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coor. <input type="checkbox"/> | Quality <input type="checkbox"/> | | | |
| NCR No. _____ | | | Work Order Update <input type="checkbox"/> | Finishing <input type="checkbox"/> | Composite <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Supplier <input type="checkbox"/> | Other <input type="checkbox"/> | | | |
| Root Cause | Date | Step | Qty | Description of work order update or Non-conformance | | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector | |
| Doc/Data | 13.11.19 | 140 | | please change to QC 7 instead of QC3 | | | | | 13/11/21 | | |
| Equip/Tooling | | | | | | | | | | | |
| Operator | | | | | | | | | | | |
| Material | | | | | | | | | | | |
| Setup | | | | | | | | | | | |
| Other | | | | | | | | | | | |
| Process | | | | | | | | | | | |
| Supplier | | | | | | | | | | | |
| Training | | | | | | | | | | | |
| Unapproved | | | | | | | | | | | |
| FAULT CATEGORY | | | | | | | | | | | |
| Landing Gear | General | | | | | | | | | | |
| | <input type="checkbox"/> Bending | <input type="checkbox"/> Bend | <input type="checkbox"/> Grain | <input type="checkbox"/> Ovalized | <input type="checkbox"/> Pressure/Forced | | | | | | |
| | <input type="checkbox"/> Centre Not Concentric to O/S | <input type="checkbox"/> BOM/Route | <input type="checkbox"/> Hardware | <input type="checkbox"/> Over/Under tolerance | <input type="checkbox"/> Temperature/Cure | | | | | | |
| | <input type="checkbox"/> Cracks | <input type="checkbox"/> Broken/Damaged | <input type="checkbox"/> Inspection Incomplete | <input type="checkbox"/> Part Incorrect | <input type="checkbox"/> Weld | | | | | | |
| | <input type="checkbox"/> Crushed/Crimped | <input type="checkbox"/> Burrs | <input type="checkbox"/> Instructions Incomplete/Unclear | <input type="checkbox"/> Part Lost/Missing | <input type="checkbox"/> Wrong Stock Pulled | | | | | | |
| | <input type="checkbox"/> Cuffs | <input type="checkbox"/> Contamination | <input type="checkbox"/> Maintenance | <input type="checkbox"/> Part Moved | | | | | | | |
| | <input type="checkbox"/> Heat Treat | <input type="checkbox"/> Countersink | <input type="checkbox"/> Mislabeled | <input type="checkbox"/> Positioned Wrong | | | | | | | |
| | <input type="checkbox"/> Inspection Strip in Tube | <input type="checkbox"/> Cut Too Short | <input type="checkbox"/> Misread | <input type="checkbox"/> Power Loss/Surge | | | | | | | |
| | <input type="checkbox"/> Ripples in Bend | <input type="checkbox"/> Drill Holes | <input type="checkbox"/> Offset | | | | | | | | |
| | <input type="checkbox"/> Torque Waves in Extrusion | <input type="checkbox"/> Drawing | <input type="checkbox"/> Out of Calibration | | | | | | | | |
| | <input type="checkbox"/> Turning Sequence | <input type="checkbox"/> Finish | <input type="checkbox"/> Out of Sequence | | | | | | | | |
| | <input type="checkbox"/> Wave/Twist in Tube | <input type="checkbox"/> Folio | <input type="checkbox"/> Outside Dimensions | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

Work Order ID 106302

106302

Page 3

August-28-13 12:33:34 PM

Item ID: D3066-1

Accept

N900040100

Setup

Start

NS1

Revision ID:

Stop

NS2

Item Name: Spacer

Start Date: 8/28/13

Start Qty: 40.00

40

Cust Item ID:

Required Date: 8/28/13

Req'd Qty: 40.00

40

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160

QC21- Final Inspection - Work Order Release

0.00

13/11/2013

160

QC

Memo

0.00

ME
13-11-20

Quality Control

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

| Work Order: _____ | | | DISPOSITION | | | AGAINST DEPARTMENT/PROCESS | | | | | |
|-------------------|---|---|--|---|---|--|------------------------------------|--|--------------------------------------|--------------|--------------|
| | | | Rework <input type="checkbox"/> | Scrap <input type="checkbox"/> | Use-as-is <input type="checkbox"/> | Skid-tube <input type="checkbox"/> | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | | |
| | | | Work Order Update <input type="checkbox"/> | | | Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coor. <input type="checkbox"/> | Quality <input type="checkbox"/> | | |
| | | | | | | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | | |
| | | | | | | Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> | | | |
| Root Cause | Date | Step | Qty | Description of work order update or Non-conformance | | | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
| Doc/Data | | | | | | | | | | | |
| Equip/Tooling | | | | | | | | | | | |
| Operator | | | | | | | | | | | |
| Material | | | | | | | | | | | |
| Setup | | | | | | | | | | | |
| Other | | | | | | | | | | | |
| Process | | | | | | | | | | | |
| Supplier | | | | | | | | | | | |
| Training | | | | | | | | | | | |
| Unapproved | | | | | | | | | | | |
| FAULT CATEGORY | | | | | | | | | | | |
| Landing Gear | General | | | | | | | | | | |
| | Bending <input type="checkbox"/> | Bend <input type="checkbox"/> | Grain <input type="checkbox"/> | Ovalized <input type="checkbox"/> | Pressure/Forced <input type="checkbox"/> | | | | | | |
| | Centre Not Concentric to O/S <input type="checkbox"/> | BOM/Route <input type="checkbox"/> | Hardware <input type="checkbox"/> | Over/Under tolerance <input type="checkbox"/> | Temperature/Cure <input type="checkbox"/> | | | | | | |
| | Cracks <input type="checkbox"/> | Broken/Damaged <input type="checkbox"/> | Inspection Incomplete <input type="checkbox"/> | Part Incorrect <input type="checkbox"/> | Weld <input type="checkbox"/> | | | | | | |
| | Crushed/Crimped <input type="checkbox"/> | Burrs <input type="checkbox"/> | Instructions Incomplete/Unclear <input type="checkbox"/> | Part Lost/Missing <input type="checkbox"/> | Wrong Stock Pulled <input type="checkbox"/> | | | | | | |
| | Cuffs <input type="checkbox"/> | Contamination <input type="checkbox"/> | Maintenance <input type="checkbox"/> | Part Moved <input type="checkbox"/> | | | | | | | |
| | Heat Treat <input type="checkbox"/> | Countersink <input type="checkbox"/> | Mislabeled <input type="checkbox"/> | Positioned Wrong <input type="checkbox"/> | | | | | | | |
| | Inspection Strip in Tube <input type="checkbox"/> | Cut Too Short <input type="checkbox"/> | Misread <input type="checkbox"/> | Power Loss/Surge <input type="checkbox"/> | | | | | | | |
| | Ripples in Bend <input type="checkbox"/> | Drill Holes <input type="checkbox"/> | Offset <input type="checkbox"/> | Other <input type="checkbox"/> | | | | | | | |
| | Torque Waves in Extrusion <input type="checkbox"/> | Drawing <input type="checkbox"/> | Out of Calibration <input type="checkbox"/> | | | | | | | | |
| | Turning Sequence <input type="checkbox"/> | Finish <input type="checkbox"/> | Out of Sequence <input type="checkbox"/> | | | | | | | | |
| | Wave/Twist in Tube <input type="checkbox"/> | Folio <input type="checkbox"/> | Outside Dimensions <input type="checkbox"/> | | | | | | | | |

Picklist Print

August-28-13 12:33:38 PM

Page 1

Work Order ID: 106302

106302

Parent Item: D3066-1

D3066-1

Parent Item Name: Spacer

Start Date: 8/28/13

Required Date: 8/28/13

Start Qty: 40.00

Required Qty: 40.00

Comments: IPP: C02.11.01 Incorporated D3066-1 IPPKJ/RF
 IPP Rev:B Now M6061-T6 06-06-23 JLM

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Qty per Kit | Total Qty | Qty Issued | Date Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
| M6061T6S.080 | | Purchased | No | | | 100 | sf | 656.0000 | 0.0945 | 3.978948 | | | ** |

M6061T6S.080

6061-T6 .080 Sheet

| <u>Location</u> | <u>Loc Qty</u> | <u>Loc Code</u> |
|-----------------|----------------|-----------------|
| MAT021 | 656 | |
| 125812 | 34 | |
| m126309 | 363.5 | |
| <u>m126350</u> | 258.5 | |

126350 → 11.91*Ac 13.10.24*

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

| Work Order: _____ | | | DISPOSITION | | | AGAINST DEPARTMENT/PROCESS | | | | | |
|-------------------|---|---|--|---|---|--|--------------------------------------|--------------|--------------|--|--|
| | | | Rework <input type="checkbox"/> | Skid-tube <input type="checkbox"/> | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | | | | |
| | | | Scrap <input type="checkbox"/> | Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coor. <input type="checkbox"/> | Quality <input type="checkbox"/> | | | | |
| | | | Use-as-is <input type="checkbox"/> | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | | | | |
| | | | Work Order Update <input type="checkbox"/> | Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> | | | | | |
| Root Cause | Date | Step | Qty | Description of work order update or Non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector | | |
| Doc/Data | | | | | | | | | | | |
| Equip/Tooling | | | | | | | | | | | |
| Operator | | | | | | | | | | | |
| Material | | | | | | | | | | | |
| Setup | | | | | | | | | | | |
| Other | | | | | | | | | | | |
| Process | | | | | | | | | | | |
| Supplier | | | | | | | | | | | |
| Training | | | | | | | | | | | |
| Unapproved | | | | | | | | | | | |
| FAULT CATEGORY | | | | | | | | | | | |
| Landing Gear | General | | | | | | | | | | |
| | <input type="checkbox"/> Bending | <input type="checkbox"/> Bend | <input type="checkbox"/> Grain | <input type="checkbox"/> Ovalized | <input type="checkbox"/> Pressure/Forced | | | | | | |
| | <input type="checkbox"/> Centre Not Concentric to O/S | <input type="checkbox"/> BOM/Route | <input type="checkbox"/> Hardware | <input type="checkbox"/> Over/Under tolerance | <input type="checkbox"/> Temperature/Cure | | | | | | |
| | <input type="checkbox"/> Cracks | <input type="checkbox"/> Broken/Damaged | <input type="checkbox"/> Inspection Incomplete | <input type="checkbox"/> Part Incorrect | <input type="checkbox"/> Weld | | | | | | |
| | <input type="checkbox"/> Crushed/Crimped | <input type="checkbox"/> Burrs | <input type="checkbox"/> Instructions Incomplete/Unclear | <input type="checkbox"/> Part Lost/Missing | <input type="checkbox"/> Wrong Stock Pulled | | | | | | |
| | <input type="checkbox"/> Cuffs | <input type="checkbox"/> Contamination | <input type="checkbox"/> Maintenance | <input type="checkbox"/> Part Moved | | | | | | | |
| | <input type="checkbox"/> Heat Treat | <input type="checkbox"/> Countersink | <input type="checkbox"/> Mislabeled | <input type="checkbox"/> Positioned Wrong | | | | | | | |
| | <input type="checkbox"/> Inspection Strip in Tube | <input type="checkbox"/> Cut Too Short | <input type="checkbox"/> Misread | <input type="checkbox"/> Power Loss/Surge | | | | | | | |
| | <input type="checkbox"/> Ripples in Bend | <input type="checkbox"/> Drill Holes | <input type="checkbox"/> Offset | <input type="checkbox"/> Other | | | | | | | |
| | <input type="checkbox"/> Torque Waves in Extrusion | <input type="checkbox"/> Drawing | <input type="checkbox"/> Out of Calibration | | | | | | | | |
| | <input type="checkbox"/> Turning Sequence | <input type="checkbox"/> Finish | <input type="checkbox"/> Out of Sequence | | | | | | | | |
| | <input type="checkbox"/> Wave/Twist in Tube | <input type="checkbox"/> Folio | <input type="checkbox"/> Outside Dimensions | | | | | | | | |

| | | |
|-----------------------|--------------|-------------|
| DART AEROSPACE LTD | Work Order: | 106302 |
| Description: Spacer | Part Number: | D3066-1 |
| Inspection Dwg: D3066 | Rev: B | Page 1 of 1 |

FIRST ARTICLE INSPECTION CHECKLIST

X First Article Prototype

27

| | | | | | |
|--------------|-----------|-------------|----------|---------------------|-----|
| Measured by: | <u>Ae</u> | Audited by: | 9-89 | Prototype Approval: | N/A |
| Date: | 13.10.24 | Date: | 13.10.24 | Date: | N/A |

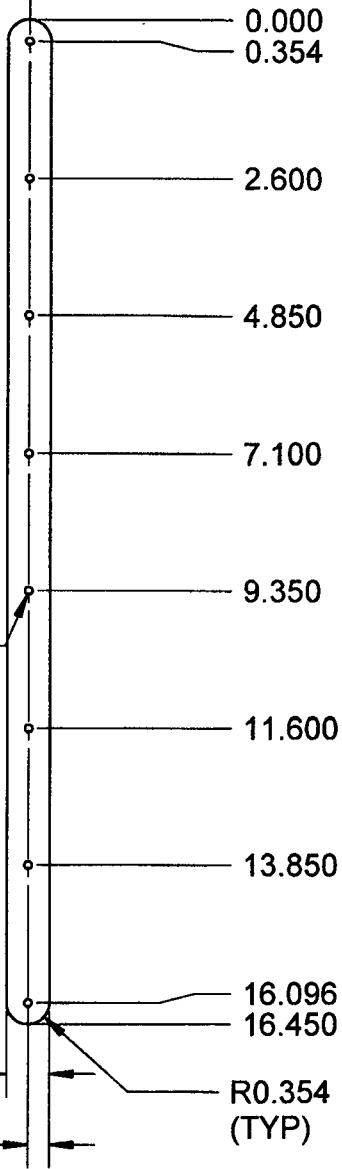
| Rev | Date | Change | Revised by | Approved |
|-----|----------|-------------------------|------------|----------|
| A | 03.09.22 | New Issue P/O D3065-041 | KJ/RF | JL |
| B | 06.06.23 | Dwg Rev. changed | KJ/JLM | JL |

DART

| | | |
|----------------------|-----------------------|--|
| DESIGN <i>CP</i> | DRAWN BY <i>CB</i> | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA |
| CHECKED <i>PH</i> | APPROVED <i>MM</i> | DRAWING NO. D3066 |
| DATE 06.05.29 | TITLE SPACER | REV. B SHEET 1 OF 1 SCALE 1:3 |

| | | |
|---|----------|----------------------|
| A | 02.09.11 | NEW ISSUE |
| B | 06.05.29 | ADD 6061-T6 MATERIAL |

RELEASED

06.06.20 *[Signature]* $\phi 0.128$ (#30)
(TYP 8 PLACES)*62-80-51
C7W 205901***D3066-1 SPACER**

- 1) MATERIAL: 6061-T6 (PER QQ-A-250/11 OR AMS 4025 OR AMS 4027) 0.080" THICK (REF DART SPEC M6061T6S.080)
OR
5052-H32/H34 (PER QQ-A-250/8 OR AMS 4016) 0.080" THICK (REF DART SPEC. M5052H32S.080)
- 2) FINISH: ACID ETCH & ALODINE PER DART QSI 005 4.1
- 3) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 4) PART IS SYMMETRIC ABOUT CENTERLINE
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 6) ALL DIMENSIONS ARE IN INCHES

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